

Oct. 16, 1945.

E. L. SCHOFIELD

2,387,186

AMBULANCE

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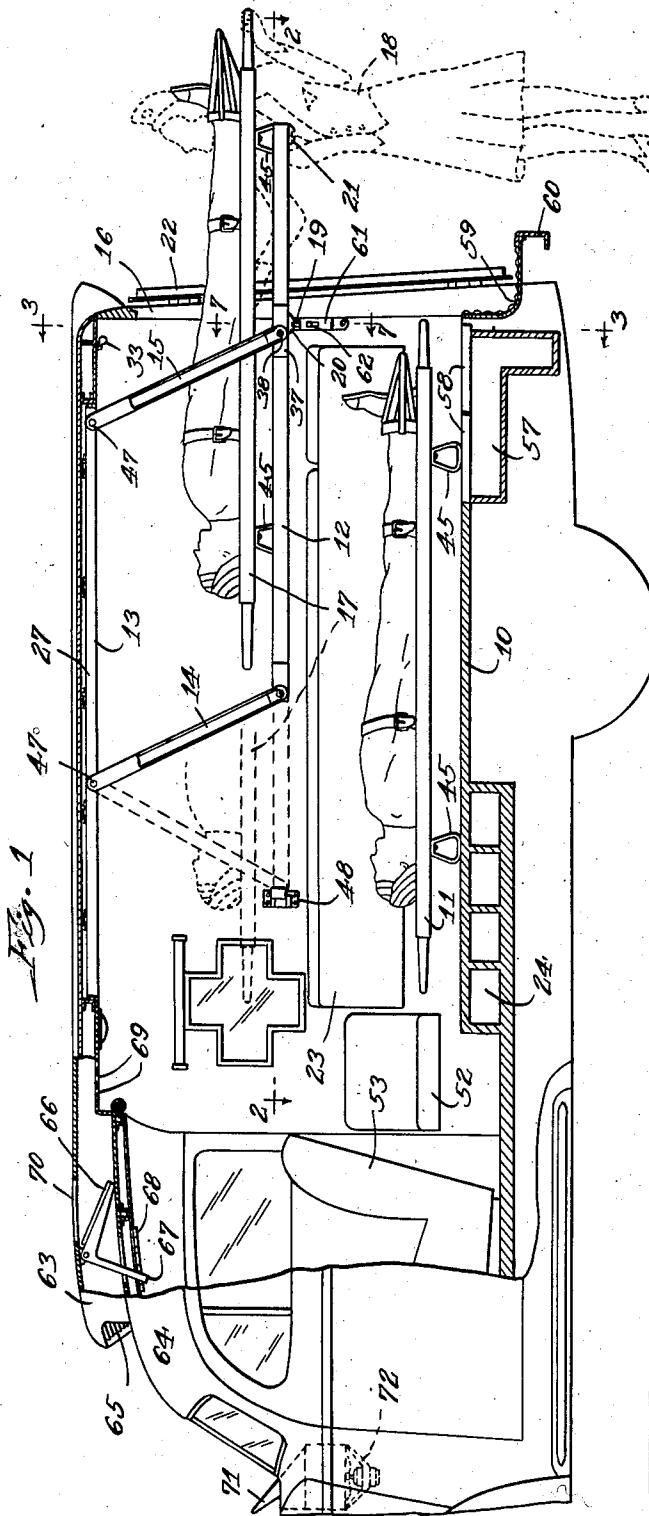
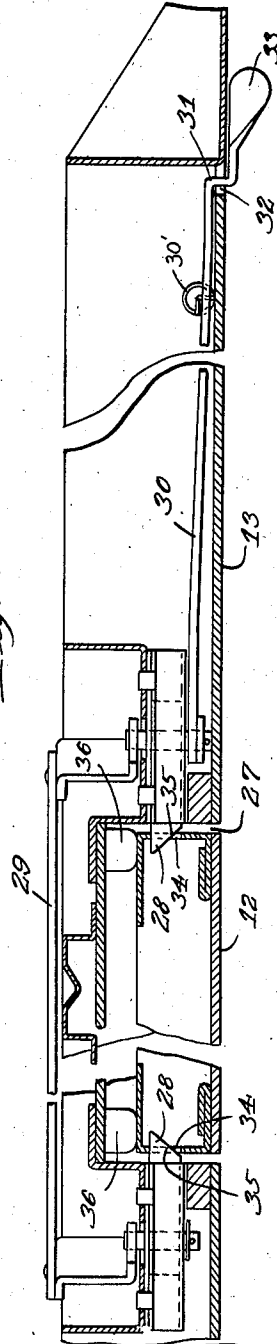


Fig. 4



Inventor:
Earl L. Schofield
By McCanna, Wintermantel
Marbach
Attys.

Oct. 16, 1945.

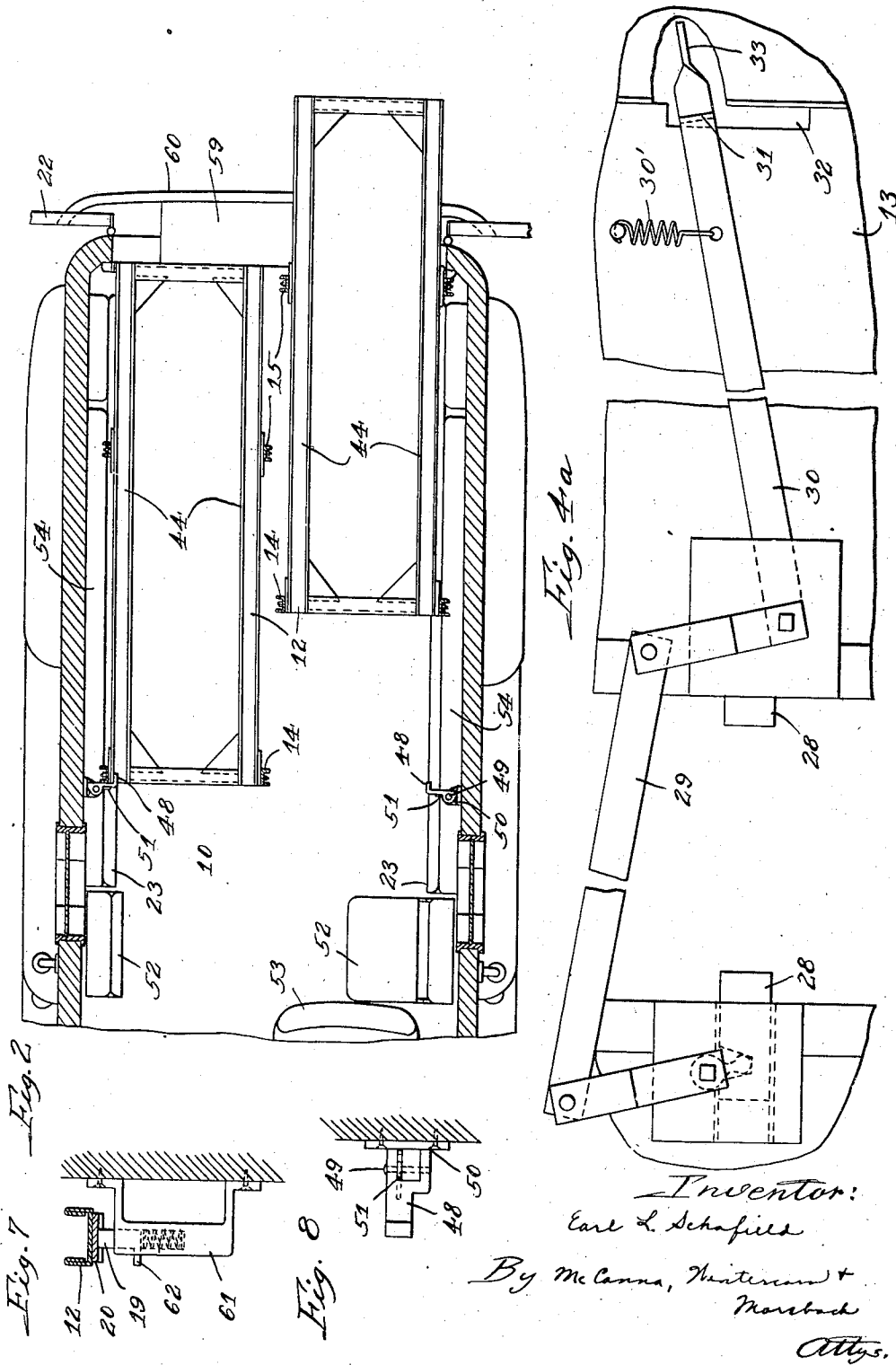
E. L. SCHOFIELD

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3 Sheets-Sheet 2



Inventor:
Earl L. Schofield
By McConna, Winterman +
Morsehead
Attys.

Oct. 16, 1945.

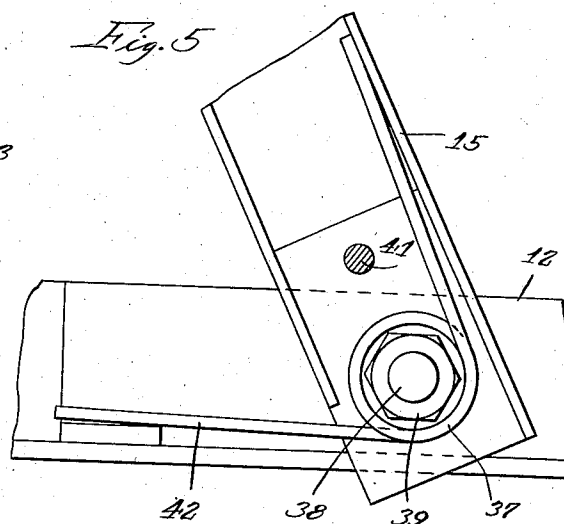
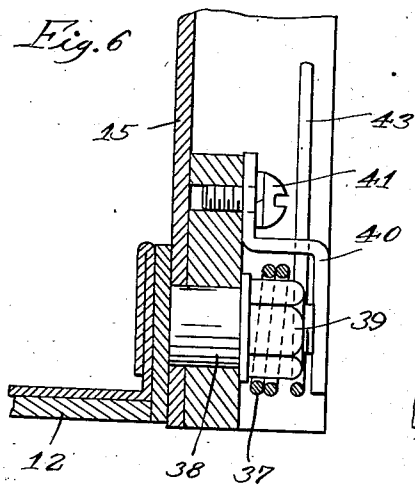
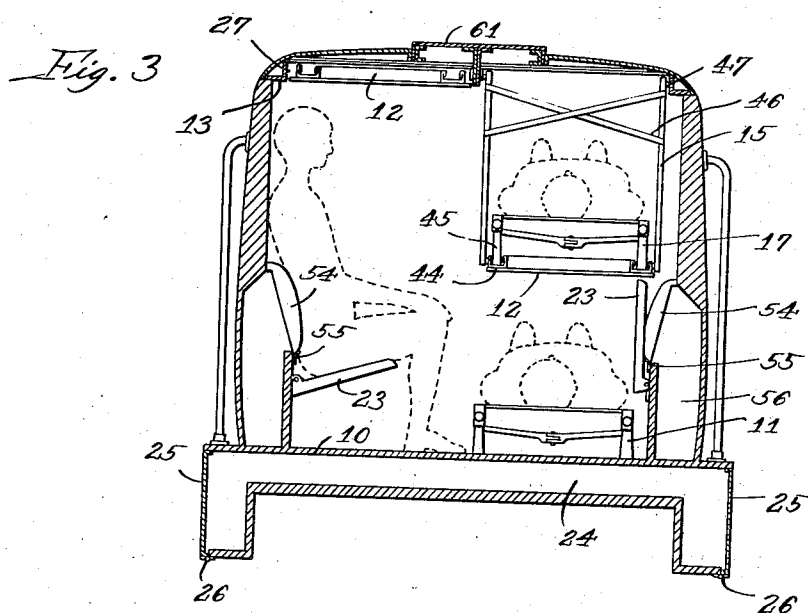
E. L. SCHOFIELD

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3 Sheets-Sheet 3



Inventor:
Earl L. Schafeld

By Mc Cann, Winterman &
Morebach
Attys.

UNITED STATES PATENT OFFICE

2,387,186

AMBULANCE

Earl L. Schofield, Freeport, Ill., assignor to
Henney Motor Company, Freeport, Ill., a cor-
poration of Delaware

Application January 16, 1942, Serial No. 426,985

22 Claims. (Cl. 296—19)

This invention relates to ambulances, and, while the one herein shown is particularly suitable for civilian defense use in taking those injured during air raids, for example, to hospitals and in the evacuation of children and old people from areas under bombardment, the same is adapted for general use as an ambulance in peace and war times.

The principal object of my invention is to provide an ambulance that will accommodate four patients safely and efficiently along with a squad of four attendants, the ambulance being so designed that all four patients can be loaded and locked in place without requiring an attendant to enter the ambulance, and any one of the four patients can be removed without disturbing any of the others or requiring an attendant to enter the ambulance. A noteworthy advantage of the ambulance of my invention is that inexperienced and average size men and women can load and unload patients, whereas the old conventional limousine type ambulance required strong men of short and heavy stature. Another advantage of the ambulance of my invention lies in the fact that it will handle four standard Red Cross or army type stretchers, of which there are thousands now distributed throughout the country; no standard limousine type ambulance is capable of doing that.

A salient feature of this ambulance consists in the provision of stretcher carriers suspended from the top of the ambulance on pivoted arms swingable as a pendulum relative to the top for movement of the carriers from an extended loading and unloading position to a retracted position for transportation, the carriers being quickly releasably lockable in either position and being, furthermore, movable with the arms upwardly to an out-of-the-way position in a recess in the top, in which it is also quickly releasably lockable. The carriers are preferably counterbalanced so that they will not drop from the top when released, but are movable downwardly easily and substantially as easily upwardly.

Still another object consists in the provision of means releasably holding the carriers against sidesway while the ambulance is in motion, said means however permitting movement of the carrier freely in a longitudinal direction so that it does not require any attention when the carrier is to be moved to the rear for loading and unloading or moved forwardly to the folded position.

A still further object consists in the provision of an ambulance of the kind mentioned in which

two attendant seats are provided in the front of the body behind the two forwardly tipping front seats in the driver's compartment and in front of the stretcher space, two other full length seats being provided on opposite sides of the body in the stretcher space foldable to out-of-the-way positions along the side walls but available for use at any time when the ambulance is not carrying stretchers or is carrying only one or two stretchers in one side of the body, each of these long seats being capable of seating six adults or ten children.

These and other objects and advantages of the invention will appear in the course of the following detailed description, in which reference is made to the accompanying drawings, wherein—

Figure 1 is a vertical longitudinal section through an ambulance made in accordance with my invention and illustrating the mode of operation of the upper carriers;

Fig. 2 is a horizontal section on the line 2—2 of Fig. 1;

Fig. 3 is a vertical cross-section on the line 3—3 of Fig. 1 but showing only two stretchers being carried in one side of the body, the other half being made available for other passengers;

Fig. 4 is an enlarged, longitudinal, vertical, sectional detail, illustrating the locking means in the top for securing the carriers in folded position;

Fig. 4a is a plan view of the locking mechanism shown in Fig. 4;

Figs. 5 and 6 are enlarged sectional details in planes at right angles to one another, illustrating the counterbalancing spring means for the carriers;

Fig. 7 is a sectional detail on an enlarged scale taken on the line 7—7 of Fig. 1, showing the carrier latch means in the rear end of the body, and

Fig. 8 is a detail on an enlarged scale of the anti-sway means provided for the carriers in the front portion of the body.

The same reference numerals are applied to corresponding parts throughout the views.

The floor 10 of the ambulance body is adapted to support two standard Red Cross or army type stretchers side by side, as indicated at 11 in Fig. 1. Two other stretchers can be supported on carrier racks 12, hereinafter referred to as carriers, suspended from the top 13 on pendulum type arms 14 and 15. These arms are swingable from the dotted line "in" position to the full line position shown in Fig. 1 to have the carriers 12

project through the rear door opening 16 far enough for easy loading and unloading of the upper two stretchers, one of which is indicated at 17 in Fig. 1. The arms 14 and 15 are long enough to provide not only for sufficient extension of the two carriers 12 from the rear of the ambulance in the loading position, but also for support of the carriers at an elevation low enough for easy loading of patients by inexperienced average size men and women, a woman attendant being indicated at 18 in Fig. 1. A latch 19 is provided in connection with each carrier in the rear end of the body to cooperate with locking plates 20 and 21 for quickly releasably locking the carrier in either of the two positions mentioned. After a stretcher 17 has been loaded on the carrier 12, the latch 19 can be released and the carrier 12 will tend to swing inwardly by gravity, due to the pendulum type levers 14 and 15. Hence very little effort is required on the part of the attendant in this operation, and when the carrier has been moved forwardly as far as it should go, the latch 19 is entered in the locking plate 21. It is clear that the stretcher 17 in this movement of the carrier 12 remains horizontal, which according to medical authorities is most important in the handling of the sick and injured. It will also be noted that there is no necessity for an attendant entering the ambulance in the loading or unloading of a patient, whereas the old conventional limousine type ambulance invariably required that, and for that reason necessitated men attendants who were strong and of short and heavy stature. The arrangement also permits any one of the four patients to be removed without disturbing any of the others and without requiring an attendant to enter the ambulance. The floor 10 is long enough to accommodate regulation ninety inch length Red Cross or army type stretchers. The same is true of the carriers 12. The fact that there are thousands of that type of stretchers distributed throughout the country makes the adaptability of this ambulance to use of that type of stretcher important in the present emergency, and the fact that the present ambulance will accommodate four of these stretchers, whereas the standard limousine type of ambulance will usually accommodate only two, is also an important feature which makes this ambulance particularly suited for civilian defense use for taking those injured during air raids to hospitals. In passing, it should be clear that the rear doors 22 are arranged to be closed after the ambulance is loaded.

This ambulance being also intended for use in the evacuation of children and old people from areas under bombardment is designed to have the stretcher space cleared quickly and easily so that the seats 23 extending the full length of the stretcher space along opposite sides of the body can be swung down and made available for use. In Fig. 3 only one-half of the stretcher space has been converted to passenger space, illustrating the flexibility and adaptability of this ambulance. The four stretchers can be stored in four compartments 24 provided therefor under the floor 10 extending crosswise relative to the body of the ambulance. Doors 25 hinged, as at 26, to swing outwardly and downwardly make all four stretcher compartments accessible at a time from either side of the ambulance. The carriers 12, or either of them, can be moved upwardly into recesses 27 provided therefor in the top 13, as indicated in the left hand portion of Fig. 3, the pen-

dulum type arms 14 and 15 being foldable upwardly into the recesses 27 with the carriers, and when the carriers are moved to this out-of-the-way position, the bottoms thereof are substantially flush with the inside of the top, as should be clear from Figs. 3 and 4. Latches 28 mounted in the top 13 and interconnected, as indicated at 29, for joint operation are operable by means of a lever 30 that is oscillatable through a small arc in a plane parallel to the top 13. The lever has a downwardly bent portion 31 projecting through a slot 32 in the top 13, and is provided with a thumb piece 33 on the free end thereof just large enough for convenient operation of the latches 28 but not large enough to interfere with walking into and out of the ambulance. The latches 28 enter holes 34 provided therefor in the opposite ends of the carriers 12, and the latches are beveled, as indicated at 35, to permit camming thereof out of the way by engagement with the carrier frames as the carriers enter the recesses 27. Spring means, shown at 36, urges the latches 28 toward the operative position of Fig. 4, and the latches are movable manually to retracted position by means of the lever 30. Rubber bumper blocks 36 mounted in the recesses 27 have engagement with and are compressed by the frames of the carriers 12 when they are moved home in the recesses 27, whereby to eliminate danger of rattling.

Coiled torsion springs 37, as shown in Figs. 5 and 6, are provided in connection with the pivots 38 connecting the arms 15 with the carriers 12 to counterbalance the weight of the carrier assemblies so that when the latches 28 are released the carriers will not drop freely by gravity but can be moved downwardly easily to the operating position. On the other hand, in the return of the carriers to folded out-of-the-way position the springs 37 facilitate this operation. The springs 37 have their coiled portions surrounding the nuts 39 on the threaded ends of the pivot studs 38, and the small brackets 40 fastened by screws 41 to the arms 15 serve to retain these coiled portions against displacement. One arm 42 of each spring bears against a suitable abutment on the frame of the carrier 12, and the other arm 43 bears against a flange on the arm 15. It will be seen, therefore, that the springs 37, which will of course be given a sufficient preload to substantially counterbalance the weight of the carrier assembly in folded position, will be loaded further in the unfolding of the carrier and, hence, will have maximum loading when the carrier is extended to the loading and unloading position shown in full lines in Fig. 1. It follows therefore that when the latch 19 is released the carrier will move inwardly very easily, such movement being assisted partly by gravity and partly by the action of the springs. The springs therefore serve more than just the counterbalancing function and tend toward easier and speedier operation of the ambulance as a whole. Each carrier 12 has a pair of parallel channel side members 44 which provide convenient guides for the legs 45 on the stretchers in sliding the stretchers to and fro in loading and unloading. These channels 44 are of great advantage because once the front pair of legs 45 on the stretcher have been entered in the channels the stretcher is guided from that point on as the legs slide along the channels and it, therefore, requires only one operator to complete the loading of the stretcher, finally entering the rear pair of legs 45 in the channels in the manner indicated in Fig. 1. If desired, I may provide

means on the rear ends of these channels to engage at least one rear leg 45 on each stretcher to lock the stretcher against drifting back and forth lengthwise of the channels, due to sudden slow-down or stopping or sudden pick-up in speed of the ambulance. The open form of the legs 45 makes the provision of such means to fit these openings a simple matter, and the attendant can easily lock and unlock the stretcher from behind the ambulance, especially while the carrier is extended in the loading position. Sidesway of the carriers 12 is reduced to a minimum by virtue of the fact that the arms 14 and 15 are of channel-shaped section and are therefore fairly stiff. These arms are furthermore cross-braced, as indicated at 46 in Fig. 3, just below the the pivots 47 connecting the upper ends of the arms 14 and 15 with the top 13. The braces, therefore, do not reduce head room to any objectionable extent, there being ample clearance left between each carrier 12 and the braces 46 for a loaded stretcher, as shown in Fig. 3. Any remaining tendency toward sidesway can be eliminated by the provision of hook-shaped lugs 48 pivoted as at 49 on brackets 50 on the sides of the ambulance and having spring means 51 normally urging the same toward operative engagement with the front ends of the outer channel side members 44 of the carriers 12. The one carrier is shown held in that way in Fig. 2, and the other carrier is shown in extended position away from the lug 48, and it will be noted that the lug 48 is positively limited in its spring pressed movement toward the carrier so that it stands in the position shown, ready for cooperation with the front end of the channel side member 44 of the carrier when the carrier is moved forwardly to its "in" position. The lugs 48 being spring pressed are yieldable forwardly upon engagement with the front end of the carrier when the carrier is moved to the "in" position and locked by the latch 19, so that there is no danger of the lugs 48 rattling. The spring tension of the lugs 48 also permits easy withdrawal thereof from the front end of the carriers when the latter are to be moved upwardly to folded out-of-the-way position. There is an advantage in having the lugs 48 automatically connect on and disconnect from the carriers, because in the loading and unloading of stretchers the attendants do not have to bother with these lugs and the operation of the ambulance as a whole is accordingly much more efficient.

The seats indicated at 52 behind the forwardly tiltable front seats 53 in the driver's compartment are intended for two attendants. These attendants will usually enter and leave the ambulance by tilting forward the seat next to the driver's seat. These seats 52 are foldable upwardly to afford extra free space when desired. The full length seats 23 previously mentioned are also foldable upwardly to out-of-the-way positions, as shown in Fig. 2. In Fig. 3 one of these seats is shown folded upwardly and the other is shown in unfolded position for use. The seat bottoms 23 are preferably spring tensioned to hold them yieldingly in folded up position. The seat backs 54 are hinged at their bottom edges, as indicated at 55, to swing outwardly from the side walls of the ambulance to afford access to full length storage compartments 56 in the side walls. The seat bottoms 23, therefore, serve the additional purpose of holding the seat backs against accidental outward swinging movement. Another storage compartment 57 is provided under the floor 10 at the rear of the ambulance, and access to this

compartment is afforded through raisable doors 58.

A back step 59 which is more or less covered and protected by the back doors 22 when closed provides a convenient entry step, the tread portion of which is level with the top of the rear bumper 60. Handles 61 are provided on the opposite sides of the body at the rear to be grasped in entering the ambulance, and it will be observed that the latches 19 previously mentioned are incorporated in these handles, the latches being spring pressed upwardly for cooperation with either of the locking plates 20 and 21 but being movable downwardly to retracted position by means of small knobs 62 provided on the shank portions of the latches which are slidable in the handles, as clearly shown in Fig. 7.

At 63 is indicated a longitudinally extending duct, projecting forwardly over the top of the driver's cab 64, having an inlet grill 65 in the front end thereof for fresh air intake in summer. The draft through this duct can be cut off by a valve 66 controlled from the driver's seat by a lever 67 in the top of the cab 64, 68 being a keeper plate on which the lever 67 can be locked releasably in adjusted position. The duct 63 communicates with the stretcher space in the ambulance body through openings 69 in the top 13, only a few of which are shown in Fig. 1, these openings being located along the top at various points. The duct 63 extends the full length of the body, and these openings 69 assure good ventilation from end to end of the stretcher space. In cold weather an opening 70, otherwise closed by the valve 66, can be uncovered by placing the valve in the position shown, whereby to set up circulation of air upwardly through the openings 69 and out through the opening 70, such circulation being induced by the rush of air past the opening 70 over the duct 63 in the forward travel of the ambulance. In cold weather a cowl ventilator 71 of the well known type can be opened to admit fresh air, and this air can be circulated through or past the usual hot water or other type heater in the driver's compartment, like that indicated at 72, and circulated rearwardly through the stretcher space.

It is believed the foregoing description conveys a good understanding of the objects and advantages of my invention. The appended claims have been drawn to cover all legitimate modifications and adaptations.

I claim:

1. In an ambulance comprising a body having a substantially horizontal top and floor, an adjustable stretcher support, comprising an elongated frame extending longitudinally with respect to the body on which a stretcher may be placed, pairs of laterally spaced arms adjacent the opposite ends of said frame for suspension support thereof, all of said arms being of substantially the same length and disposed parallel to one another and pivoted at their upper ends on the top of said body and at their lower ends on the frame, whereby said frame is movable longitudinally with respect to the body from an operative rearward substantially horizontal position for loading and unloading of a stretcher thereon to an operative forward substantially horizontal position for transportation of a stretcher, said arms in such movement of the frame having pendulum motion and maintaining the frame substantially horizontal throughout the movement, said arms being of a length to support the frame in either operative position at approximately a mid-posi-

tion between the top and floor so that the floor is usable for support of another stretcher under said adjustable stretcher support, said frame being adapted to be swung upwardly and forwardly for storage in an inoperative position parallel to and adjacent the top, means for releasably securing said adjustable stretcher support in said inoperative position, and means for releasably securing said adjustable stretcher support in either of said operative positions.

2. An ambulance as set forth in claim 1, wherein the last mentioned means comprises a latch movably mounted on the body and engageable selectively with either of two longitudinally spaced locking plates on the stretcher support frame, whereby to hold said frame in either the rearward or forward operative position.

3. An ambulance as set forth in claim 1, including cross-brace means interconnecting the upper end portions of said arms below their upper pivots to minimize sidesway of the stretcher support frame and stretcher thereon during transportation, said brace means being spaced vertically from said frame sufficiently to admit a loaded stretcher therebelow on the frame.

4. An ambulance as set forth in claim 1, including means on the body having detachable engagement with the stretcher support frame to prevent sidesway of the stretcher support during transportation.

5. An ambulance as set forth in claim 1, including means on the body having detachable engagement with the stretcher support frame to prevent sidesway of the stretcher support during transportation, said means being disposed forwardly in relation to said frame for engagement with the front end portion thereof in the forward position of the stretcher support, said frame being movable freely rearwardly away from said means.

6. An ambulance as set forth in claim 1, including spring means connected so as to be loaded in the rearward movement of the stretcher support relative to the body, whereby said stretcher support is urged forwardly from its rearward position upon release, partly by action of said spring means and partly by gravity due to the rearward inclination of said suspension arms in the rearward position of the stretcher support.

7. In an ambulance comprising a body having a substantially horizontal floor and a top portion providing a recess therein, an adjustable stretcher support comprising an elongated frame extending longitudinally with respect to the body and recess on which a stretcher may be placed, pairs of laterally spaced arms in substantially parallel relation to one another adjacent the opposite ends of said frame for suspension support thereof, all of said arms being of substantially the same length and pivoted at their upper ends on the top of said body in the rearward major portion of the area of said recess and at their lower ends on the frame in the forward major portion of the area thereof, whereby said frame is movable longitudinally with respect to the body from an operative rearward substantially horizontal position for loading and unloading of a stretcher thereon in which the rear portion of the frame is easily accessible from behind the ambulance to an operative forward substantially horizontal position for transportation of a stretcher, said arms in such movement of the frame having pendulum motion and maintaining said frame substantially horizontal throughout the movement, means for releasably securing said adjustable stretcher support in either of said operative positions, the

stretcher support being foldable forwardly and upwardly into the recess for storage, and means for releasably securing the stretcher support in its folded position.

8. An ambulance as set forth in claim 7, including counterbalancing means connected to said stretcher support to resist dropping thereof from the recess upon release.

9. An ambulance as set forth in claim 7, including counterbalancing spring means connected to said stretcher support to resist dropping thereof from the recess upon release, said spring means being loaded in the downward movement of the stretcher support toward operative position and being further loaded in the movement of the stretcher support from forward to rearward position, whereby said spring means is arranged to assist the forward movement of the stretcher support from rearward position upon release.

10. In an ambulance, a body having an adjustable stretcher support, comprising an elongated frame disposed longitudinally with respect to the body upon which a stretcher may be placed, pendulum type suspension arms disposed in substantially parallel relation to one another in longitudinally spaced relation to the body and frame having their upper ends pivoted in the rearward approximately half portion of the body and having their lower ends pivoted to the forward approximately half portion of the frame, whereby the rearward portion of said stretcher support may be extended out of the rear end of the body for loading and unloading of a stretcher in the rearward operative position of the stretcher support, said stretcher support being movable from said rearward operative position to a forward operative position inside the body of said ambulance for transportation, said arms being foldable forwardly and upwardly toward the top portion of the body in the folding of said adjustable stretcher support to a raised out-of-the-way inoperative position, means for releasably securing said stretcher support in said raised inoperative position, said arms being of substantially equal length and together providing for substantially parallel movement of the frame so as to maintain the frame substantially horizontal throughout its movement from one operative position to the other, and means for releasably securing said stretcher support in either of said operative positions.

11. In a vehicle of the rear delivery type comprising a body having a substantially horizontal top and floor, an adjustable carrier rack comprising an elongated frame extending longitudinally with respect to the body on which a load may be placed, pairs of laterally spaced arms adjacent the opposite ends of said frame for suspension support thereof, all of said arms being of substantially the same length and disposed parallel to one another and pivoted at their upper ends on the top of said body and at their lower ends on the frame, whereby said frame is movable longitudinally with respect to the body from an operative rearward substantially horizontal position for loading and unloading to an operative forward substantially horizontal position for transportation of the load, said arms in such movement of the frame having pendulum motion and maintaining the frame substantially horizontal throughout the movement, said arms being of a length to support the frame in either operative position at approximately a mid-position between the top and floor so that the floor is usable for other storage purposes, said frame be-

ing adapted to be swung upwardly for storage in an inoperative position parallel to and adjacent the top, means for releasably securing said adjustable carrier rack in said inoperative position, and means for releasably securing said adjustable carrier rack in either of said operative positions.

12. A vehicle as set forth in claim 11, wherein the last mentioned means comprises a latch movably mounted on the body and engageable selectively with either of two longitudinally spaced locking plates on the carrier frame, whereby to hold said frame in either the rearward or forward operative position.

13. A vehicle as set forth in claim 11, including cross-brace means interconnecting the upper end portions of said arms below their upper pivots to minimize sidesway of the carrier frame and load thereon during transportation, said brace means being spaced vertically from said frame sufficiently to admit a load therebelow on the frame.

14. A vehicle as set forth in claim 11, including means on the body having detachable engagement with the carrier frame to prevent sidesway of the carrier rack during transportation.

15. A vehicle as set forth in claim 11, including means on the body having detachable engagement with the carrier frame to prevent sidesway of the carrier rack during transportation, said means being disposed forwardly in relation to said frame for engagement with the front end portion thereof in the forward position of the carrier rack, said frame being movable freely rearwardly away from said means.

16. A vehicle as set forth in claim 11, including spring means connected so as to be loaded in the rearward movement of the carrier rack relative to the body, whereby said carrier rack is urged forwardly from its rearward position upon release, partly by action of said spring means and partly by gravity due to the rearward inclination of said suspension arms in the rearward position of the carrier rack.

17. In a vehicle of the rear delivery type, a body having an adjustable carrier rack comprising an elongated frame disposed longitudinally with respect to the body upon which a load may be placed, pendulum type suspension arms disposed in substantially parallel relation to one another in longitudinally spaced relation to the body and frame having their upper ends pivoted in the rearward approximately half portion of the body and having their lower ends pivoted to the forward approximately half portion of the frame, whereby the rearward portion of said carrier rack may be extended out of the rear end of the body for loading and unloading in the rearward position of the rack, and whereby said arms are swingable forwardly and upwardly toward the top portion of the body in the movement of said rack to a raised out-of-the-way position, said arms being of substantially equal length and together providing for substantially parallel movement of the frame so as to maintain the frame substantially horizontal throughout its movement, and means for releasably securing said rack in adjusted or folded positions.

18. In a vehicle of the rear delivery type, a body having a substantially horizontal floor and a top portion providing a recess therein, an adjustable carrier rack comprising an elongated frame extending horizontally with respect to the body and recess on which a load may be placed, pairs of laterally spaced arms in substantially parallel relation to one another adjacent the op-

posite ends of said frame for suspension support thereof, all of said arms being of substantially the same length and pivoted at their upper ends on the top of said body in the rearward approximately half of the recess and at their lower ends on the frame in the forward approximately half thereof, whereby said frame is movable longitudinally with respect to the body from an operative rearward, substantially horizontal position for loading and unloading, in which the rear portion of said carrier is easily accessible from behind the vehicle, to an operative forward, substantially horizontal position for transportation of the load, said arms in such movement of the carrier having pendulum motion and maintaining said carrier substantially horizontal throughout the movement, means for releasably securing said carrier in either of said operative positions, said carrier being foldable forwardly and upwardly into the recess for storage, and means for releasably securing said carrier in its folded position.

19. A vehicle as set forth in claim 18, including a counterbalancing means connected to said carrier to resist dropping thereof from the recess upon release.

20. A vehicle as set forth in claim 18, including a counterbalancing spring means connected to said carrier to resist dropping thereof from the recess upon release, said spring means being loaded in the downward movement of the carrier toward operative position and being further loaded in the movement of the carrier from the forward operative position to the rearward operative position, whereby said spring means is adapted to assist the forward movement of said carrier from rearward operative position upon release.

21. In a vehicle of the rear delivery type, a body having an adjustable carrier rack comprising an elongated frame disposed longitudinally with respect to the body upon which a load may be placed, pendulum type suspension arms disposed in substantially parallel relation to one another in longitudinally spaced relation to the body and frame having their upper ends pivoted in the rearward approximately half portion of the body and having their lower ends pivoted to the forward approximately half portion of the frame, whereby the rearward portion of said carrier extends out of the rear end of the body to facilitate loading and unloading in the rearward operative position of said carrier, said carrier being movable from said rearward operative position to a forward operative position inside the body of said vehicle for transportation, and means for releasably securing said carrier in either of said operative positions.

22. In a vehicle of the rear delivery type, a body having an adjustable carrier rack comprising an elongated frame disposed longitudinally with respect to the body upon which a load may be placed, pendulum type suspension arms disposed in substantially parallel relation to one another in longitudinally spaced relation to the body and frame having their upper ends pivoted in the rearward approximately half portion of the body and having their lower ends pivoted to the forward approximately half portion of the frame, whereby the rearward portion of said carrier extends out of the rear end of the body to facilitate loading and unloading in the rearward operative position of said carrier, said carrier being movable from said rearward operative position to forward operative position in substantially the

same elevation inside the body of said vehicle for transportation, said arms being swingable forwardly and upwardly toward the top portion of the body in the movement of said carrier to a raised inoperative position, means for releasably securing said carrier in said raised inoperative position, said arms being of substantially equal

length and together providing for substantially parallel movement of said carrier so as to maintain said carrier substantially horizontal throughout its movement from one operative position to the other, and means for releasably securing said carrier in either of said operative positions.

EARL L. SCHOFIELD.